WHAT IS CLAIMED IS:

1. A method of providing a graft vessel for a patient, comprising:

a) dissecting the graft vessel from connective tissue adjacent to the graft vessel to provide a free portion of the graft vessel;

b) positioning an active electrode of an electrosurgical probe in at least close proximity to a first position of the free portion of the graft vessel; and thereafter

c) upon application of a high frequency voltage between the active electrode and a return electrode, transecting the graft vessel at the first position via localized molecular dissociation of graft vessel components.

2. The method of claim 1, further comprising:

d) positioning the active electrode of the electrosurgical probe in at least close proximity to a second position of the free portion of the graft vessel; and thereafter

e) upon application of a high frequency voltage between the active electrode and the return electrode, transecting the graft vessel at the second position via localized molecular dissociation of the graft vessel components.

3. The method of claim 2, further comprising:

f) prior or concurrently to said steps c) or e), delivering an electrically conductive fluid to the active electrode such that the electrically conductive fluid provides a current flow path between the active electrode and the return electrode.

4. The method of claim 1, further comprising:

g) prior to said step a), accessing at least a portion of the graft vessel by removing at least a portion of an overlying tissue which overlies the graft vessel.

5. The method of claim 4, wherein said step g) comprises:

h) positioning the active electrode in at least close proximity to the overlying tissue; and

i) after said step h), applying a high frequency voltage between the active electrode and the return electrode, wherein the overlying tissue is ablated via localized molecular dissociation of overlying tissue components.

6. The method of claim 5, further comprising:

j) prior to or during said step i), delivering an electrically conductive fluid to the active electrode such that the electrically conductive fluid provides a current flow path between the active electrode and the return electrode.

7. The method of claim 5, further comprising:

k) during said step i), moving the active electrode against a surface of the overlying tissue to create an incision in the overlying tissue.

8. The method of claim 4, wherein the overlying tissue is a sternum, an intercostal space, or the skin of the patient.

9. The method of claim 7, further comprising effecting hemostasis of the overlying tissue at the incision.

10. The method of claim 2, wherein transecting the graft vessel at the first position or the second position comprises moving the active electrode with respect to the graft vessel.

11. The method of claim 1, wherein said step a) comprises:

l) positioning the active electrode of the electrosurgical probe in at least close proximity to the connective tissue adjacent to the graft vessel; and

m) after said step l), applying a high frequency voltage between the active electrode and the return electrode, wherein at least a portion of the connective tissue adjacent to the graft vessel is ablated via localized molecular dissociation of connective tissue components.

12. The method of claim 11, further comprising:

n) prior to or during said step m), providing an electrically conductive fluid between the active electrode and the return electrode.

13. The method of claim 11, wherein during said steps c) and m) the graft vessel and the connective tissue, respectively, are exposed to a temperature in the range of from about 40° C to 70° C.

14. The method of claim 1, wherein said steps a) through c) are performed in a minimally invasive procedure or with laparascopic access.

15. The method of claim 1, wherein the method is performed intercostally.

16. The method of claim 1, wherein the method comprises a coronary artery bypass graft (CABG) procedure.

17. The method of claim 1, wherein said steps a) through c) are performed in conjunction with a median sternotomy.

18. The method of claim 1, wherein the graft vessel is a saphenous vein or an internal mammary artery.

19. The method of claim 1, wherein the high frequency voltage has a frequency in the range of from about 50 kHz to about 500 kHz.

20. The method of claim 1, wherein the high frequency voltage is in the range of from about 10 volts RMS to about 500 volts RMS.

21. The method of claim 11, wherein said step m) comprises effecting hemostasis of the connective tissue.

22. The method of claim 1, wherein the active electrode consists essentially of a single blade electrode having an active edge and first and second blade sides.

23. The method of claim 5, wherein the active electrode consists essentially of a single blade electrode having an active edge and first and second blade sides, the overlying tissue comprises the sternum, said step i) generates a high current density in the region of the active edge such that an incision is formed in the sternum, and at least one of the first and second blade sides engages the incised sternum, wherein hemostasis of the incised sternum is effected.

24. A method of harvesting a blood vessel, comprising:

a) providing an electrosurgical probe having a return electrode and an active electrode, the return electrode and the active electrode electrically coupled to opposite poles of a high frequency power supply;

b) positioning the electrosurgical probe adjacent to the blood vessel so that the active electrode is brought into at least close proximity with the blood vessel at a first position;

c) placing an electrically conductive fluid between the active electrode and the return electrode; and

d) applying a high frequency voltage between the active electrode and the return electrode such that the blood vessel is severed at the first position as a result of localized molecular dissociation of the blood vessel components in the vicinity of the active electrode.

25. The method of claim 24, further comprising:

e) prior to said step b), removing at least a portion of an overlying tissue by electrosurgical molecular dissociation of overlying tissue components, wherein access is gained to at least a portion of the blood vessel.

26. The method of claim 25, further comprising:

f) after said step e), dissecting at least a portion of the blood vessel from connective tissue at least partially surrounding the blood vessel.

27. The method of claim 25, wherein said step e) comprises:

g) positioning the active electrode in at least close proximity to the overlying tissue;

h) delivering an electrically conductive fluid to the active electrode such that the electrically conductive fluid provides a current flow path between the active electrode and the return electrode; and

i) applying a high frequency voltage between the active electrode and the return electrode, the high frequency voltage sufficient to effect molecular dissociation of overlying tissue components.

28. The method of claim 26, wherein said step f) comprises:

j) positioning the active electrode in at least close proximity to the connective tissue;

k) delivering an electrically conductive fluid to the active electrode such that the electrically conductive fluid provides a current flow path between the active electrode and the return electrode; and

l) applying a high frequency voltage between the active electrode and the return electrode, the high frequency voltage sufficient to effect removal of at least a portion of the connective tissue via molecular dissociation of the connective tissue components.

29. The method of claim 24, further comprising:

m) during said step d), moving the active electrode relative to the blood vessel.

30. The method of claim 27, wherein during said step i) the overlying tissue is exposed to a temperature in the range of from about 40° C to 70° C.

31. The method of claim 24, wherein the blood vessel is a saphenous vein or an internal mammary artery.

32. The method of claim 24, wherein said step b) is performed in a minimally invasive procedure.

33. The method of claim 24, wherein the method comprises a coronary artery bypass graft (CABG) procedure.

34. The method of claim 33, wherein the blood vessel is an internal mammary artery, and said step b) is performed intercostally.

35. The method of claim 25, wherein the overlying tissue comprises an intercostal space, said step e) comprises forming an incision in the intercostal space, and the method further comprises inserting an introducer device in the incision.

36. The method of claim 35, wherein said step b) comprises passing a distal end of the electrosurgical probe through the introducer device such that the distal end of the electrosurgical probe is in at least close proximity to an internal mammary artery.

37. The method of claim 25, wherein the active electrode consists essentially of a single blade electrode having an active edge and substantially parallel first and second blade sides.

38. The method of claim 37, wherein the overlying tissue comprises the sternum, the active edge severs the sternum, and at least one of the first and second blade sides engages the severed sternum and coagulates blood within the sternum, wherein internal bleeding of the sternum is minimized.

39. The method of claim 24, further comprising:

n) after said step d), transecting the blood vessel at a second position via localized molecular dissociation of components of the blood vessel tissue.

40. The method of claim 39, wherein transecting the blood vessel at the second position comprises:

o) positioning the active electrode in at least close proximity to the blood vessel at the second position; and thereafter

p) applying a high frequency voltage to the active electrode sufficient to sever the blood vessel at the second position via localized molecular dissociation of the components of the blood vessel tissue.

41. A method of transecting a blood vessel of a patient's body, comprising:

a) positioning an active electrode in contact with or in close proximity to the blood vessel;

b) applying a high frequency voltage to the active electrode, the high frequency voltage sufficient to volumetrically remove tissue from the blood vessel via localized molecular dissociation of components of the blood vessel tissue; and

c) moving the active electrode with respect to the blood vessel to create an incision in the blood vessel.

42. The method of claim 41, further comprising:

d) prior to said step b), dissecting at least a portion of the blood vessel from a connective tissue adjacent to the blood vessel.

43. The method of claim 41, wherein the blood vessel is an internal mammary artery, a saphenous vein, or a gastroepiploic artery.

44. The method of claim 41, further comprising performing a gross thoracotomy or a median sternotomy prior to said step a).

45. The method of claim 41, further comprising directing an electrically conductive fluid over the active electrode and a return electrode to provide a current flow path between the active electrode and the return electrode.

46. The method of claim 41, further comprising placing an electrically conductive gel at a target site on the blood vessel such that the electrically conductive gel provides a current flow path from the active electrode through the electrically conductive gel and to a return electrode.

47. The method of claim 41, wherein said step a) comprises positioning the active electrode in at least close proximity to an internal mammary artery, and said step c) comprises transecting the internal mammary artery at the incision location.

48. The method of claim 41, wherein said step b) raises the temperature of the blood vessel tissue to a temperature between approximately 45°C and 90°C.

49. The method of claim 41, wherein said step c) includes engaging a tip or edge of the active electrode against the blood vessel, and the blood vessel is transected at the incision location.

50. The method of claim 41, wherein the active electrode comprises a plurality of electrodes aligned in a substantially linear arrangement on a distal end of an electrosurgical probe.

51. The method of claim 50, wherein the high frequency voltage is in the range of from about 10 volts RMS to 500 volts RMS.

52. A method of harvesting a blood vessel with an electrosurgical probe having an active electrode and a return electrode coupled to opposite poles of a high frequency voltage source, the method comprising:

a) positioning the electrosurgical probe adjacent to the blood vessel at a first vessel position so that the active electrode is brought into at least partial contact or close proximity with the blood vessel in the presence of an electrically conductive fluid;

b) applying a high frequency voltage between the active electrode and the return electrode such that an electric current flows from the active electrode through the blood vessel at the first vessel position and to the return electrode; and

c) moving the active electrode relative to the blood vessel, wherein the blood vessel is severed at the first vessel position.

53. The method of claim 52, wherein application of the high frequency voltage causes tissue components of the blood vessel to undergo localized molecular dissociation in the vicinity of the active electrode.

54. The method of claim 52, wherein the active electrode comprises a blade electrode having an active edge adapted for incising tissue via molecular dissociation of tissue components.

55. The method of claim 52, wherein the blood vessel comprises a gastroepiploic artery, a saphenous vein, or an internal mammary artery.

56. A method of harvesting an internal mammary artery (IMA) of a patient with an electrosurgical probe having an active electrode and a return electrode disposed on a shaft distal end of the probe, the active electrode and the return electrode coupled to opposite poles of a high frequency power supply, the method comprising:

a) positioning the distal end of the probe such that the active electrode is in at least close proximity to a target site of the IMA;

b) providing an electrically conductive fluid to the shaft distal end such that the electrically conductive fluid forms a current flow path between the active electrode and the return electrode; and

c) volumetrically removing tissue components of the IMA at the target site by application of a high frequency voltage between the active electrode and the return electrode, wherein the IMA is transected at the target site.

57. The method of claim 56, further comprising:

d) prior to said step a), accessing at least a portion of the IMA by removing an overlying tissue which overlies the IMA.

58. The method of claim 57, wherein said step d) comprises making an incision in a sternum or making an incision in an intercostal space.

59. The method of claim 58, wherein said step d) comprises removing at least a portion of the overlying tissue by electrosurgical molecular dissociation of overlying tissue components.

60. The method of claim 56, further comprising:

e) prior to said step a), dissecting the IMA from a connective tissue surrounding at least a portion of the IMA to provide a free portion of the IMA substantially free from the connective tissue.

61. The method of claim 60, wherein said step e) comprises severing at least a portion of the connective tissue by electrosurgical molecular dissociation of connective tissue components.

62. The method of claim 56, further comprising:

f) during said step c), manipulating the probe such that the active electrode is moved relative to the IMA at the target site.

63. The method of claim 60, further comprising:

g) after said step e), anastomosing the IMA to a coronary artery.

64. The method of claim 63, wherein said step g) comprises anastomosing a transected end of the IMA to a side of the coronary artery.

65. The method of claim 64, wherein the transected end of the IMA is anastomosed to an ascending aorta.

66. A method of performing a coronary artery bypass graft (CABG) procedure, comprising:

a) accessing an internal mammary artery (IMA) by removal of at least a portion of an overlying tissue which overlies the IMA;

b) dissecting at least a portion of the IMA from a connective tissue which at least partially surrounds the IMA to provide a free portion of the IMA;

c) transecting the free portion of the IMA via electrosurgical molecular dissociation of tissue components of the IMA; and

d) anastomosing a free end of the transected IMA to a recipient vessel.

67. The method of claim 66, wherein said step a) comprises forming an incision in an intercostal space via electrosurgical molecular dissociation of tissue components of the intercostal space.

68. The method of claim 66, wherein said step b) comprises severing at least a portion of the connective tissue via electrosurgical molecular dissociation of connective tissue components.

69. The method of claim 66, wherein said step c) comprises:

positioning an active electrode of an electrosurgical probe in at least close proximity to a target site within the free portion of the IMA;

providing an electrically conductive fluid between the active electrode and a return electrode; and

applying a high frequency voltage between the active electrode and the return electrode sufficient to cause localized molecular dissociation of tissue components of the IMA in the vicinity of the active electrode.

70. The method of claim 66, wherein said step d) comprises anastomosing the free end of the transected IMA to a side of a coronary artery.

71. The method of claim 66, wherein said step d) comprises forming an opening in a wall of the recipient vessel, the opening suitable for receiving the free end of the transected IMA, wherein forming the opening comprises:

positioning an active electrode of an electrosurgical probe in at least close proximity to the recipient vessel at a site targeted for the opening;

providing an electrically conductive fluid between the active electrode and a return electrode; and

applying a high frequency voltage between the active electrode and the return electrode sufficient to cause localized molecular dissociation of tissue components of the recipient vessel in the vicinity of the active electrode.